

FADLI LABORATORY
RESEARCH AND DEVELOPMENT REPORT
Period of July 1962 through December 1962

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R & D ORGANIZATION

In August of 1962, a recent graduate chemical engineer was hired. Our Research Group now consists of six men: Messrs. Lehnert, Schnabel, Sundberg, Hinkel, Green and Smith. Initially, the new men were assigned to work with one of the other members of the group, in order to gain experience. Another reason for this grouping is that certain projects require the efforts of more than one person.

Specific projects have been assigned to each individual or pair of individuals. A monthly research group meeting is held, in which each member gives an oral reporting on his assigned projects. The purpose of these monthly meetings is three-fold:

1. The meetings serve to inform each member of what the others are doing.
2. We receive the benefit of the thinking of the entire group on a given project, even though the project may only be assigned to one man.
3. First-hand guidance in project investigation and planning is provided by Messrs. Hoggatt and Shuttleworth.

A Research and Development budget has been prepared for the year 1963 and an accounting procedure has been set up, which is intended to provide the cost of each R & D project. These costs include salaries, materials, special equipment, plant runs, fees for outside testing, travel expense, etc. Heretofore such detailed cost information has not been available.

This report covers the accomplishments of our research efforts for the past six months. During this period, much time has been devoted to training the new men. We feel that this time has been well spent and will pay off in the future contributions of these men. Also included in this report are the past six months' market performance of products which were developed through research since this group was organized in June 1961.

MARKET PERFORMANCE OF NEW PRODUCTS - JULY 1962 - DECEMBER 1962

A. Firestop-120 Ceiling Tile

1. Amount sold - 74,100 square feet
2. Dollar sales volume - \$13,308
- * 3. Gross Profit - \$4,398

B. Grabit Masonry Adhesive

1. Amount sold - 7 tons
2. Dollar sales volume - \$1,398
- * 3. Gross Profit - \$766

C. One Day Joint System (Limited sale to Philadelphia and Washington sales districts and a few selected customers)

1. Amount sold - 90 tons
2. Dollar sales volume - \$15,616
- * 3. Gross Profit - \$7,619

* Gross Profit estimated by Ardmore Cost Department

<u>SALES</u>	<u>GROSS PROFIT</u>
13,308	4,398
1,398	766
15,616	7,619
<u>20,322</u>	<u>12,783</u>

PROJECTS COMPLETED

A. New Products

1. One Day Joint Compound - R & D 243

Objective: Develop a setting type (gypsum base) joint compound.

Result: For the past six months, we have been market testing this product in the Philadelphia and Washington sales districts, as well as with selected customers in Indianapolis, Indiana; Omaha, Nebraska; and Columbus, Ohio. Our Acme, Texas and Wilmington, Delaware plants have been manufacturing this One Day Joint Compound. About 75 tons of One Day Joint Compound were sold during this period, most of it in the Philadelphia and Washington sales districts. This was a follow-up from our field testing program, which indicated we had a product with great potential. The market tests confirmed our field trials and gave us quite a lot more experience with the product. Only two minor complaints were received during this time, and in neither case has the customer stopped using the product or requested an adjustment. In November, we were informed that National Gypsum Company and United States Gypsum Company were field testing products similar to ours. A sample of National's product was obtained and our examination of their material indicates they are not too far behind us.

Based on the six months of favorable market testing, and the fact that National and probably U.S.G. are field testing similar products, we made a decision on December 4th to release our One Day Joint Compound nationally. About 30 to 60 days will be required for us to receive the necessary bags and raw materials at Acme to begin stocking our plants. Wilmington will continue to manufacture and supply One Day Joint Compound for the area they service. It will be some time after the first of the year before we have all plants stocked and ready for general distribution of One Day Joint Compound.

The advantages we expect to gain from this product are:

- a. Increased sale of joint system materials
- b. Greater profit margin from One Day Joint Compound as compared to other joint system products.

- c. Prestige of being the first company to market a product which improves the quality and economy of Drywall joint treatment operations.
- d. A competitive edge over companies, such as Synkoloid, Proko, Reardon, and many others which manufacture joint compounds but are not gypsum manufacturers. These manufacturers would have to purchase gypsum from one of the gypsum companies in order to manufacture a product like our One Day Joint Compound.
- e. An increase in the sale of our gypsum board products is possible, at least until National and U.S.G. have setting type joint compounds of their own. We have seen evidence of the One Day Joint Compound helping board sales in the Philadelphia sales district.
- f. At such time as the demand warrants, One Day Joint Compound can be manufactured at other plants, such as Sigurd and Blue Rapids, with very little capital investment. This would enable us to realize some savings in freight.

2. Gypsum Board Surfaced with Wood Veneer - R & D 215

Objective: To find a satisfactory means to laminate Furnaflex wood veneer to gypsum board.

Result: Although we were able to accomplish our objective, the project was dropped because of the unfavorable economics of this product.

B. Improved Products

1. Super Firestop - R & D 241

Objective: To develop a 5/8" Firestop board which will permit 1-1/2 and 2 hour fire ratings when it is used on the underside of concrete and bar joist floor and ceiling constructions.

Result: Our laboratory testing indicated that a 5/8" Firestop with twice as much glass fiber would provide the additional fire endurance we were seeking for this construction. A fire endurance test at Underwriters' fell 8 minutes short of making two hours, so we received a 1-1/2 hour rating. This makes us competitive with U.S.G., who also have a 1-1/2 hour fire rating for this construction. The additional glass fiber in the special 5/8" Firestop will cost us \$1.12/M sq. ft.

5. Water Repellent Treatment for Sheathing Paper

Objective: To find a lower cost material than the Quilon we now use, which will apply easier and offer better repellency.

Status: The wax emulsion treatment, after several modifications and retrials, proved to be unsatisfactory. We are now evaluating a two component material which has looked very encouraging on a small scale. We are planning to make a full scale trial at Pryor, as soon as it can be arranged.

6. Owens-Corning Foam Glass Pellets - R & D 210

Objective: To make a 1" insulation board and/or a 1/2" one hour fire rated board by incorporating Owens-Corning's foam glass pellets into these products. An additional advantage sought is to make a lighter weight board.

Status: We finally settled on a 5.6 lb. apparent density pellet and an extensive investigation was launched. Our conclusions were: a 1" pellet board, having sufficient low thermal conductivity to be sold as an insulation board, would have much too weak a core. We were unable to achieve good enough fire resistant qualities to make a 1/2" fire rated pellet board. We were, however, able to reduce the weight of 5/8" Firestop and regular 1/2" board. Based on a pellet cost of 10¢ to 12¢ per lb., as furnished by Owens-Corning, the savings in freight and stucco displaced do not offset the total pellet cost. We have requested that Owens-Corning develop a lighter weight pellet so that the freight savings and stucco reduction per pound of pellets will be greater, therefore improving the economics.

7. Resin Base Topping Compound - R & D 211

Objective: To develop a synthetic base, dry powder joint finishing material which will have longer pot life and lower shrinkage than present casein base products.

Status: Two field trials have been made with two different formulas but, in each case, we were unable to satisfy all the requirements. In addition to this, a problem of the plasticizer leaching into and discoloring the bag has developed. A revised formula has been found which should overcome all previous problems. We have instructed the plant to make a trial batch of this revised formula and, if it is satisfactory, another field trial will be arranged.

8. Resin Base Joint System Texture - R & D 211

Objective: To formulate a dry texture which can be mixed with perlite and sprayed onto masonry surfaces as a one coat decoration.

Status: The chief problem here was to impart sufficient rust-inhibitive properties to prevent steel members from rusting through the texture. We have arrived at a formula which appears to satisfy all the necessary requirements. We have instructed the plant to make a batch of this texture for field testing.

9. Ready Mix Joint System - R & D 211

Objective: To develop a ready-mixed or paste type joint compound to be competitive with U.S.G.'s Ready Mix and other similar products on the market.

Status: We previously developed and successfully field tested a paste joint compound, but cost studies indicated that the product should be made at Acme to avoid freight for dry fillers. Unfortunately the area serviced by Acme is not a large ready mix market. In view of these factors, this project was tabled.

The subject of ready mix was brought up again recently to reconsider furnishing the West Coast, which is one of the largest markets for ready mix, out of Acme. In the meantime, we have been developing a ready mix with a dry resin binder in lieu of the liquid resin used in the previous formula. We have arranged to have some of this material made at Acme and shipped to Paoli. We will mix the product here, put it in pails, and arrange for field testing. If this revised product is satisfactory, it will prevent us from having to store large quantities of liquid emulsion and from requiring equipment to handle the emulsion. While this will not affect the cost studies previously made, it will simplify the facilities we would need and reduce the expenditure for equipment, if it is decided to market a ready mix joint compound.

10. Thincoat Plaster - R & D 219

Objective: To develop a one coat thincoat lath and plaster system which will be suitable for both textured and smooth finished surfaces.

Status: The original product we developed and field tested was not suitable for smooth finished surfaces. A second experimental product has been developed to be used in conjunction with a fast suction lath, and this system appears to be very satisfactory. The new formula has much higher compressive strength, is adaptable to smooth and texture finishes, and costs less to make than our first formula.

Our first field trial of this thincoat formula was quite encouraging. More field trials will be conducted as soon as possible in order to more completely evaluate this new product.

Dallas Morning News 4/29/77

Products containing asbestos banned as cancer-cause suspects

WASHINGTON (UPI) — The Consumer Product Safety Commission banned spackling compounds and other wall patching mixtures containing asbestos Thursday, as possible causes of cancer.

Asbestos-containing imitation logs and ash used in gas-burning fireplaces also came under the ban and a list of other materials, such as vinyl tiles, wallboard, brake linings and modeling clay was named for investigation.

"This (asbestos) is probably one of the most well-documented toxic substances around," Commissioner David Pittle said. "You don't have to look at the rats, just look at the people."

The agency left open the question of whether consumers will be able to get refunds for banned products now in their possession.

The commission voted 4-0, with one commissioner absent, to accept a recommendation from the Natural Resources Defense Council to ban spackling compounds and similar mixtures with asbestos. The council said millions of consumers were being exposed to a needless hazard when such materials are installed, sanded or removed.

The commissioners also banned spackling compounds containing a form of asbestos called tremolitic talc.

The NRCD followed up by asking the commission to consider banning modeling clay, textured paints, brake shoes and linings, wallboard and other products containing asbestos.

It also said there was a potential problem with vinyl floor tile because the adhesive used with it contains asbestos.

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MAY 1994





Associated Press Wirephoto

Expensive dummies

Some of the 50 test dummies at the General Motors proving grounds in Milford, Mich., are restrained by shoulder belts while being stored on wheelchairs. The dummies cost between \$10,000 and \$12,000 and are made to government specs by a private contractor.

3 German guer

Trio found guilty of Ameri

STUTTGART, West Germany (AP) — Urban guerrilla Andreas Baader and two companions were sentenced to life imprisonment Thursday for the terror-bomb murders of four U.S. soldiers during the Vietnam war.

Baader, 33, his girl friend Gudrun Ensslin, 36, and Jan-Carl Raspe, 32, were found guilty of bombing Army posts in Frankfurt and Heidelberg in 1972 and buildings in four other German cities.

"Not everyone can declare himself a subject of international law and declare war on his own," chief Judge Eberhard Potb declared in rejecting defense claims the bombings were legitimate protests against U.S. military actions in Vietnam.

The three terrorists also were convicted by the 5-judge tribunal of 34

counts of attempted murder and of forming a criminal conspiracy. They are on a hunger strike in their jail cells and refused to come to court to hear the verdict.

THE 23-MONTH trial in a special security courthouse built for the case at Stuttgart's Stammheim Prison was punctuated by the same outbreaks of antistate violence that made the Baader-Meinhof gang West Germany's "Public Enemy No. 1" from 1970 to 1972.

Three weeks ago, chief federal prosecutor Siegfried Buback, 57, who led the state's case against the terrorists, was assassinated in Karlsruhe by a group calling itself "Commando Ulrike Meinhof."

Mrs. Meinhof, 41, the gang's accused cochief along with Baader, was found

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CORRECTION!

An error was made in the Ches-Lee advertisement which ran in the Trend section of The Dallas News on Thursday, April 28. The price of the Key-Finder should have been

\$3.50 each

Ches-Lee, Hillside Village
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Products containing asbestos banned as cancer-cause suspects

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The commissioners also banned spackling compounds containing a form of asbestos called tremolite talc.

The NRDC followed up by asking the commission to consider banning modeling clay, textured paints, brake shoes and linings, wallboard and other products containing asbestos.

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